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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,692	01/14/2002	Hans Rudolf Muller	EPROV 17	8615
23599	7590	04/29/2004	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			BERCH, MARK L	
			ART UNIT	PAPER NUMBER
			1624	

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,692

Applicant(s)

MULLER ET AL.

Examiner

Mark L. Berch

Art Unit

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/15/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 29-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 29-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/30/04 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13, 17, 29, 32-35 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Replacement of C with -N- is impossible (claim 6). That would give a N with just two bonds; N must have at least three.
2. The term "tertiary phosphane" is indefinite. The reference is noted, but does not suffice. There are three problems 1) what is intended for n? 2) What are the substituents --- the term "tertiary" only counts the number of bonds to things other than H; it does not say what the bonds are attached to. 3) How does "tertiary" work? Is it a) there are exactly three substituents b) there is at least one P atom with 3 bonds c) there is at least one P with two additional substituents d) every P has 3 bonds. For example, (methyl)₂P-P(methyl)-P(methyl)H would qualify under b) and

Art Unit: 1624

- c), but not a) and d). $\text{H}_2\text{P-P(methyl)-PH}_2$ would qualify under b) but none of the others. The choice (methyl)PH-P(methyl)-P(methyl)H would qualify under a) and b) but not c) or d). Would $\text{P(PH}_2)_3$ qualify?
3. In "tertiary phosphine" in e.g. claim 1, what are the substituents --- the term "tertiary" only counts the number of bonds to things other than H; it does not say what the bonds are attached to. Likewise tertiary amine group.
4. The definition of R41 in claim 18 is unclear. Is the radical formed by the removal of H from a carbon, or could it be from P? That is, could it be e.g. $-\text{P(phenethyl)-CH}_2-\text{P(methyl)}_2$?
5. Claim 19 as rewritten is unclear. It begins by setting forth 4 categories of catalysts, but the actual catalysts all fall into category (iv), and even there, are narrower in that the category has 5-10, but the species have 5-7. For example, choice (iii) in claim 19 has an amino-phosphine choice (the first branch) but the X definition does not provide for it.
6. The term in claim 32 is unclear. What exactly is this? An imine is normally a compound with C=N structural feature, but it is not clear where the P would be involved. Is it attached to the C? To the N? Applicants need to draw out what this looks like. The traverse is unpersuasive. Two examples, of nearly identical compounds, do not answer the question. For example, in both cases, the imino is indirectly attached. Is direct attachment, e.g. P(HC=NH)_3 permitted? These are both bound via the Carbon --- would binding via N be permitted, e.g. $\text{ABP(-N=CH}_2\text{)}$? Can the imine provide two of the three tertiary pieces e.g. $\text{AP(-CH}_2\text{-C=N-C}_2\text{H}_4\text{-)}$. If

Art Unit: 1624

applicants cannot draw out a generic structure of this, the term must be deemed unclear.

7. The "aqueous reaction medium" of claim 11 lacks antecedent basis in claim 1.

Deletion of "aqueous" is suggested.

8. In claim 17, what is a "bridging group"? This term says where it is, but not what it is.

9. Phenyl appears twice on the last line of claims 35 and 37.

Claims 1-2, 4, 8-19, 29-32, 34-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scope of "derivatives" is unclear. What qualifies as a derivative and what does not? If the 4-oxo were instead thioxo, or =NR or dihydrogen, or dimethyl, or removed, etc, would that still qualify? If the 2-amino group were dimethylamino, or nitro, or halo, or were removed, would that be a derivative? If an additional ring were fused onto the core (e.g. at the 6,7 positions or cyclized via the 2-amino group and some other position), or one or the other ring were opened up, would that be a derivative? Would a metal complex of pterin qualify? Could any substituent at all appear at the 3-position?

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Berch whose telephone number is 571-272-0663. If you are unable to reach Dr. Shah within a 24 hour period, please contact James O. Wilson, Acting-SPE of 1624 at 571-272-0661. The examiner can normally be reached on M-F 7:15 - 3:45.

Art Unit: 1624

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mukund Shah can be reached on (571)272-0674. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0198.



Mark L. Berch
Primary Examiner
Art Unit 1624

April 22, 2004